

REMARKS

This is in response to the Office Action that was mailed on January 13, 2006. Claim 1 is amended based upon such disclosure as that appearing in the paragraph bridging pages 8-9 of the specification. No new matter is introduced by this Amendment. Claim 1 is the sole claim pending in the application.

In a telephonic communication on 18 January 2006, Examiner Dentz kindly indicated that the drawings filed on 24 March 2004 are accepted by the Examiner.

THE INVENTION. An object of the present invention is to provide a novel adamantanetricarboxylic acid derivative that can yield a polybenzazole having a high degree of crosslinking and that is useful as a material which can easily form a dielectric film having the thickness required for an interlayer dielectric. Another object of the present invention is to provide a novel adamantanetricarboxylic acid derivative which is useful for the formation of a dielectric film that contains a polybenzazole having high heat resistance and a low dielectric constant and which is useful in semiconductor parts.

Claim 1 was rejected under 35 USC § 102(b) as being anticipated by WO 98/40337, with reference being made to its English-language equivalent US 6,392,104 B1. It is noted that both the reference and the present application are assigned to Daicel Chemical Industries, Ltd.

The present invention has been accomplished based on the discovery that an adamantanetricarboxylic acid derivative, in which at least one of the three carboxyl groups is protected by a protecting group, has significantly improved solubility. In accordance with the present invention, by using this compound as a monomer component, a dielectric film having a

high monomer concentration can be prepared to thereby form a dielectric film having the thickness necessary for an interlayer dielectric.

In contrast, the reference upon which the Examiner relies has as an object the provision of an adamantane derivative, having at least one hydroxyl group, which is useful for a raw material for optical materials, pharmaceuticals, and agricultural chemicals.

As noted by the Examiner, compound (IIIc) of the reference may be an adamantanetricarboxylic acid derivative in which at least one of its three carboxyl groups is derivatized. However, compound (IIIc) is exemplified only as a common intermediate in the formation of compound (IIIa). That is, the reference fails to disclose protecting a carboxyl group in an adamantanetricarboxylic acid, although it does suggest that some substituent groups – e.g., hydroxyl groups of the compound (IIIa) and the compound (IIIc), carboxyl groups of the compound (IIIa) and the compound (IIIc), etc. – may be protected by protecting groups.

Furthermore, there is no disclosure or suggestion in the reference that adamantanetricarboxylic acid derivatives in which at least one of the carboxyl groups is derivatized is useful as a material that can be used to form a dielectric film having the thickness required for an interlayer dielectric. Thus for instance a polybenzazole film having a thickness of 300 nm is formed from the trimethyl ester of 1,3,5-adamantanetricarboxylic acid in Example 7 of the present application. In contrast, a polybenzazole film formed in Comparative Example 1 of the present invention using 1,3,5-adamantanetricarboxylic acid has a thickness of less than 20 nm. This provides evidence that adamantanetricarboxylic acid derivatives in which at least one of the carboxyl groups is derivatized are in fact useful as raw materials for polybenzazole films having enough thickness for use as interlayer dielectrics.

The only compound specifically named by the Examiner as being disclosed in the reference is 1,3,4-tricarboxy-7-adamantanol. The present claim does not embrace that adamantanol compound. Example 46 of US 6,392,104 B1 discloses the preparation of 1,3,5-tricarboxyladamantane from adamantane and the preparation of 1,3,5-tricarboxyl-7-adamantanol

from 1,3,5-tricarboxyadamantane. However, derivatization of carboxyl groups of these compounds is neither taught nor suggested.

When a compound falling within the scope of the claims is not specifically named in a reference, but instead it is necessary to select portions of teaching within the reference and combine them, anticipation can be found only if the classes of substituents are sufficiently limited or well delineated. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be “at once envisaged” and therefore used to anticipate the claim. MPEP 2131.02. A prior genus that does not explicitly disclose a species does not anticipate a later claim to that species. *Cf.* “Chisum on Patents”, Volume 1, § 3.02[2][b], Release No. 86, December 2002 (Matthew Bender); *In re Meyer*, 202 USPQ 175 (CCPA 1979) (the genus “alkaline chlorine or bromine solution” does not identically disclose or describe, with the meaning of §102, the species alkali metal hypochlorite, since the genus would include an untold number of species); *In re Gyurik*, 201 USPQ 552 (CCPA 1979) (“the class ... would not embrace a very limited number of compounds closely related to one another in structure so as to describe each such compound as surely as if they were identified in the reference by name”). In *Minnesota Mining & Manufacturing Co. v. Johnson Y Johnson Orthopaedics, Inc.*, 24 USPQ2d 1321, 1332 (Fed. Cir. 1992), the Federal Circuit noted that “although [a patent’s] specific claims are subsumed in [a prior art reference’s] generalized disclosure ..., this is not literal identity”.

Applicants respectfully submit that the disclosure upon which the Examiner relies does not disclose any specific compound falling within the scope of claim 1 as amended herein. Moreover, as discussed above, the reference applied does not disclose or suggest important features of the present invention. Accordingly, withdrawal of the rejection of record – and passage of this application to Issue – is in order and is respectfully solicited.

Application No. 10/807,284
Amendment dated April 13, 2006
Reply to Office Action of January 13, 2006

Docket No.: 3273-0187PUS1

Should there be any questions, the Examiner is invited to contact Richard Gallagher, Registration No. 28,781, at (703) 205-8008.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: April 13, 2006

Respectfully submitted,

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